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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,830	04/18/2005	Erwin Hacker	514413-3952	2047

7590 10/31/2008

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EXAMINER	
CHUI, MEI PING	

ART UNIT	PAPER NUMBER
1616	

MAIL DATE	DELIVERY MODE
10/31/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,830	HACKER ET AL.	
	Examiner	Art Unit	
	MEI-PING CHUI	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8 and 11-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8 and 11-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *N/A*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Action

Receipt of Amendments/Remarks filed on 07/23/2008 is acknowledged. Original claims **1-7** and **9-10** have been cancelled, claim **8** has been amended, and new claims **11-36** have been added.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL.**

Status of Claims

Accordingly, claims **8** and **11-36** are presented for examination on the merits for patentability.

Rejection(s) not reiterated from the previous Office Action are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

New Ground of Rejections

Claim Rejections - 35 USC § 112 second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 13-32 and 34-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(**1**) **Claim 13** recites the compound (A) "cyhalofop-butyl diclofop" (claim 13, line 3), which is indefinite because the herbicide named " cyhalofop-butyl diclofop" does not exist.

(**2**) **Claims 13-14** are also rejected because the claims recite the limitation "acidic" for the aforementioned compound (A). There is insufficient antecedent basis for this limitation in the claims because the term "acidic" is not recited in the precedent body of the claims.

(**3**) **Claims 13-32** and **34-35** are rejected because the claims recite the term "compound (A)". There is insufficient antecedent basis for this term in the claims because the independent claim 8 recites herbicide (A), not compound (A). Applicants are required to amend the term "compound (A)" to "herbicide (A)" so that the term can be used consistently in each further dependent claim.

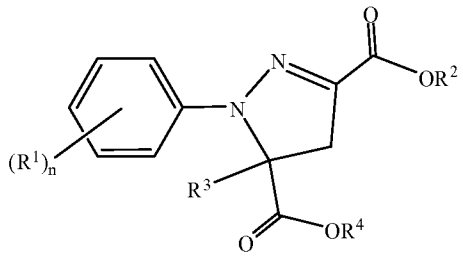
Claim Rejection - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> **(b)** the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 11-17 and 31-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosch et al. (U. S. Patent No. 5,700,758).

Applicants claim a method for increasing the weed control of one or more aryloxyphenoxypropionate herbicide (**A**), which comprises applying, simultaneously with or separately from the application of the herbicide (A), a synergistic herbicidally effective amount of one or more compound (**B**) having a structure of the formula (I) as follows:



;

wherein:

(**i**) the structures of formula (I) are:

R^{1} = identical or different, and are each halogen or (C_1-C_4)-haloalkyl;

n = an integer from 1 to 3;

R^{2} = hydrogen, (C_1-C_6)-alkyl, (C_1-C_4)-alkoxyl-(C_1-C_4)-alkyl, (C_3-C_6)-cycloalkyl, tri(C_1-C_4)-alkyl silyl or tri(C_1-C_4)-alkyl silylmethyl;

R^{3} = hydrogen, (C_1-C_6)-alkyl, (C_1-C_6)-haloalkyl, (C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl or (C_3-C_6)-cycloalkyl;

R^{4} = hydrogen or (C_1-C_{12})-alkyl; and

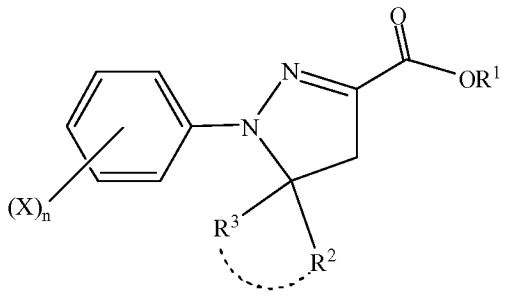
(**ii**) the ratio of the active compound (A) and (B) is from 1: 10 to 100:1, and the weeds are controlled in crops of useful plants.

With respect to claims 8, 11, 12 and 33, Rosch et al. disclose a method of protecting crop plants against phytotoxic secondary effects of herbicides, which comprises treating the plants, seeds

of the plants or areas under cultivation with a compound of the formula (I) before, after or simultaneously with, applying the herbicide (column 3, line 48-61).

Rosch et al. disclose that the method comprises a compound of formula (I) that has the property of reducing or completely preventing phytotoxic secondary effects of herbicides when used in crops of useful plants without impairing the effectiveness of the herbicides against harmful plants; thus it enlarges the field of application of the herbicides (column 3, lines 48-56).

Rosch et al. disclose that the compound of formula (I) has a chemical structure as follows (see column 16, claim 1; column 19, claim 18 and column 20, claims 24-25):



;

wherein the substituents present in the compound of formula (I) correspond to the substituents present in the instant claims as follows:

Substituent (instant claims)	Substituent (Rosch et al.)
R^1	X
R^2	R^1
R^3	R^2 or R^3
CO_2R^4	R^2 or R^3
n	n

Rosch et al. disclose that the substituent:

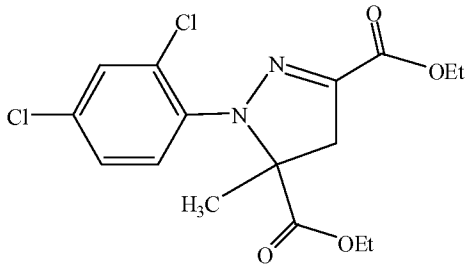
X = radicals independently of one another are halogen or C_1-C_4 haloalkyl;

R^1 = C_1-C_6-alkyl, C_3-C_6 cycloalkyl, tri(C_1-C_4 alkyl)silyl, trimethyl-silylmethyl or C_1-C_6-alkoxy-C_1-C_6-alkyl;

R^2 = independently hydrogen, C_1-C_6 alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-haloalkyl and C_1-C_{12} alkyl;

n = 1 to 3.

More specifically, Rosch et al. disclose a specific structure of the compound of formula (I) as follows (see: column 20, claim 28):



;

wherein the substituents of formula (I) are:

$(X)_n$ = 2, 4-dichloro group;

R^1 = ethyl group;

R^2 = methyl group; and

R^3 = ethoxycarbonyl group.

It is noted that the compound of formula (I), as set forth above, is a known safener, which has a common name as mefenpyr-diethyl or a chemical name as ethyl 1-(2, 4-dichlorophenyl)-5-ethoxycarbonyl-5-methylpyrazoline-3-carboxylate.

With respect to claims 13-17, Rosch et al. disclose the herbicides whose phytotoxic secondary effects can be reduced by the compound of formula (I). The suitable herbicides are the

types of the (C_1-C_4)alkyl, (C_2-C_4)alkenyl or (C_3-C_4)alkynyl phenoxyphenoxy- and heteroaryloxyphenoxy carboxylates, as well as their structural analogs (column 4, lines 14-45).

More specifically, these herbicides include:

- Diclofop-methyl: → methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)-propionate;
- Propaquizafop: → (2-isopropylideneaminooxyethyl-(R)-2-(4-(6-chloroquinoxalin-2-yloxy)phenoxy)propionate;
- Fenoxaprop-P-ethyl: → ethyl 2-(4-(6-chlorobenzoxazol-2-yloxy)phenoxy)propionate;
- Haloxyfop-P-methyl: → methyl 2-(4-(3-chloro-5-trifluoromethyl-2-pyridyloxy)-phenoxy)propionate;
- Fluazifop-butyl and Fluazifop-P-butyl: → butyl 2-(4-(5-trifluoromethyl-2-pyridyloxy)-phenoxy)propionate;
- Quizalofop-ethyl and Quizalofop-P-ethyl: → ethyl 2-(4-(6-chloro-2-quinoxalyloxy)-phenoxy)propionate;
- Clodinafop-propargyl: → propargyl2-(4-(5-chloro-3-fluoropyridyl-2-oxy)phenoxy)-propionate;
- Haloxyfop-ethyl: → ethyl 2-(4-(3-chloro-5-trifluoromethoxy-2-pyridyloxy)-phenoxy)propionate.

With respect to claims 31-32 and 34-36, Rosch et al. also disclose a method for protecting crop plants against phytotoxic effects of herbicides, wherein the herbicide is fenoxaprop-P-ethyl (column 18: claim 15, lines 23-25), and the compound of formula (I) is as recited therein (see column 18, claims 15, lines 25-50). Rosch et al. further disclose that the ratio of the herbicide (fenoxaprop-P-ethyl) and the compound of formula (I) (or named as safener in Rosch et al.) can

vary within wide limits, and it is preferably between 10:1 and 1:10 (column 18, claim 15, lines 50-53), or between 1:2 and 10:1 (column 5, lines 17-19).

Rosch et al. further disclose that the herbicide (fenoxaprop-P-ethyl) in combination with the compound of formula (I) (or named as safener compound) is applied to the plants, to seeds of the plants or to the area under cultivation (column 18, claim 15, lines 51-54).

With respect to the synergistic effects of a combination comprising one or more aryloxyphenoxypropionate herbicide (A) and one or more compound of formula (I) (named as compound B) as claimed in claim 1, it is noted that the feature upon which applicants rely (i.e., a synergistic effect) is not recited in the rejected claim 1. Although the claim is interpreted in light of the specification, limitations from the specification are not read into the claim(s). See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

This rejection is based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re Sussman*, 1943 C.D. 518. Applicants' invention is predicated on an unexpected result, which typically involves synergism, an unpredictable phenomenon, highly dependent upon specific proportions and/or amounts of particular ingredients. Any mixture of the components embraced by the claim(s) which does not exhibit an unexpected result (e.g., synergism) is therefore *ipso facto* unpatentable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

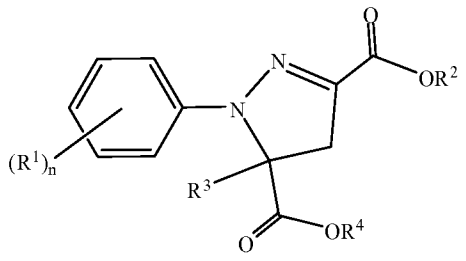
The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 18, 20-23, 25-28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosch et al. (U. S. Patent No. 5,700,758).

Applicant Claims

Applicants claim a method for increasing the weed control of one or more aryloxyphenoxypropionate herbicide (**A**), which comprises applying, simultaneously with or separately from the application of the herbicide (A), a synergistic herbicidally effective amount of one or more compound (**B**) having a structure of the formula (I) as follows:



;

(**i**) wherein the structures of the compound of formula (I) are:

n = an integer from 1 to 3;

$\mathbf{R^1}$ = identical or different, and are each halogen or (C_1-C_4)-haloalkyl;

$\mathbf{R^2}$ = hydrogen, (C_1-C_6)-alkyl, (C_1-C_4)-alkoxyl-(C_1-C_4)-alkyl, (C_3-C_6)-cycloalkyl, tri(C_1-C_4)-alkyl silyl or tri(C_1-C_4)-alkyl silylmethyl;

$\mathbf{R^3}$ = hydrogen, (C_1-C_6)-alkyl, (C_1-C_6)-haloalkyl, (C_2-C_6)-alkenyl, (C_2-C_6)-alkynyl or (C_3-C_6)-cycloalkyl;

$\mathbf{R^4}$ = hydrogen or (C_1-C_{12})-alkyl; and

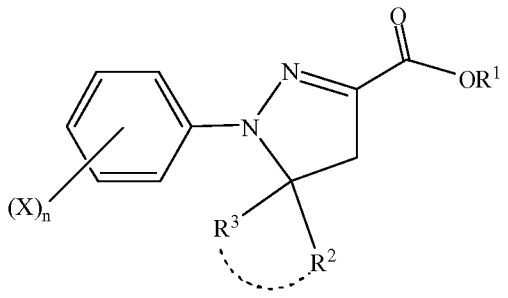
(**ii**) wherein the compound of formula (I) is mefenpyr-diethyl.

Determination of the scope and content of the prior art
(MPEP 2141.01)

The teaching of Rosch et al. has been set forth above. Essentially Rosch et al. teach a method of protecting crop plants against phytotoxic secondary effects of herbicides, which comprises treating the plants, seeds of the plants or areas under cultivation with a compound of the formula (I) before, after or simultaneously with, applying the herbicide (column 3, line 48-61).

Rosch et al. teach that the method comprises a compound of the formula (I) that has the property of reducing or completely preventing phytotoxic secondary effects of herbicides when used in crops of useful plants without impairing the effectiveness of the herbicides against harmful plants; thus it enlarges the field of application of the herbicides (column 3, lines 48-56).

Rosch et al. also teach that the compound of formula (I) that has a chemical structure as follows (see column 16, claim 1; column 19, claim 18 and column 20, claims 24-25):



;

wherein the substituents present in the compound of formula (I) correspond to the substituents present in the instant claims as follows:

Substituent (instant claims)	Substituent (Rosch et al.)
R^1	X
R^2	R^1
R^3	R^2 or R^3
CO_2R^4	R^2 or R^3
n	n

Rosch et al. teach that the substituent:

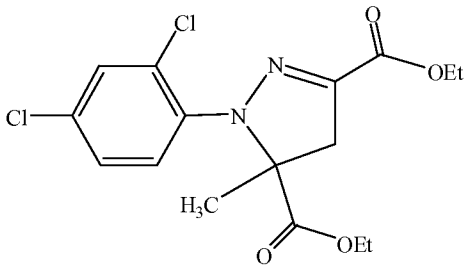
X = radicals independently of one another are halogen or C_1-C_4 haloalkyl;

R^1 = C_1-C_6-alkyl, C_3-C_6 cycloalkyl, tri(C_1-C_4 alkyl)silyl, trimethyl-silylmethyl or C_1-C_6-alkoxy-C_1-C_6-alkyl;

R^2 = independently hydrogen, C_1-C_6 alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-haloalkyl and C_1-C_{12} alkyl, and

n = 1 to 3.

More specifically, Rosch et al. teach a structure of the compound of formula (I) as follows (see: column 20, claim 28):



;

wherein the substituents of the compound of formula (I) are:

$(X)_n$ = 2, 4-dichloro-group;

R^1 = ethyl group;

R^2 = methyl group; and

R^3 = ethoxycarbonyl group.

It is noted that the compound of formula (I), as set forth above, is a known safener, which has a common name as mefenpyr-diethyl or a chemical name as ethyl 1-(2, 4-dichlorophenyl)-5-ethoxycarbonyl-5-methylpyrazoline-3-carboxylate.

Rosch et al. further teach the herbicides whose phytotoxic secondary effects can be reduced by the compound of formula (I). The suitable herbicides are the types of the (C_1-C_4)alkyl, (C_2-C_4)alkenyl or (C_3-C_4)alkynyl phenoxyphenoxy- and heteroaryloxyphenoxy carboxylates, as well as their structural analogs. More specifically, these herbicides include:

- Diclofop-methyl: → methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)-propionate;
- Propaquizafop: → (2-isopropylideneaminooxyethyl-(R)-2-(4-(6-chloroquinoxalin-2-yloxy)phenoxy)propionate;
- Fenoxaprop-P-ethyl: → ethyl 2-(4-(6-chlorobenzoxazol-2-yloxy)phenoxy)propionate;
- Haloxyfop-P-methyl: → methyl 2-(4-(3-chloro-5-trifluoromethyl-2-pyridyloxy)-phenoxy)propionate;

- Fluazifop-butyl and Fluazifop-P-butyl: ⟶ butyl 2-(4-(5-trifluoromethyl-2-pyridyloxy)-phenoxy)propionate;
- Quizalofop-ethyl and Quizalofop-P-ethyl: ⟶ ethyl 2-(4-(6-chloro-2-quinoxalyloxy)-phenoxy)propionate;
- Clodinafop-propargyl: ⟶ propargyl2-(4-(5-chloro-3-fluoropyridyl-2-oxy)phenoxy)-propionate;
- Haloxyfop-ethyl: ⟶ ethyl 2-(4-(3-chloro-5-trifluoromethoxy-2-pyridyloxy)-phenoxy)propionate.

Rosch et al. further teach that the compound of formula (I), i.e. mefenpyr-diethyl, can be combined with one or more of the herbicides, or groups of herbicides as disclosed, and can be formulated in a variety of ways dependent on the biological and/or chemical-physical parameters of the herbicides (column 5, lines 40-44 and column 20, claim 28). Therefore, the selection for the compound of formula (I) and herbicide are dependent on the nature of the plants to be treated, and they can be determined for each individual case by appropriate experiments (column 5, lines 20-24).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

Rosch et al. teach the use of compound of formula (I), specifically mefenpyr-diethyl (column 20, claim 28), in combination with one or more herbicides as set forth above, in a method of protecting crop plants against phytotoxic secondary effects of herbicides, which comprises treating the plants, seeds of the plants or areas under cultivation. Rosch et al. also teach that these herbicides are suitable to be used in combination with the compound of formula (I). However,

Rosch et al. do not explicitly teach the specific combination of mefenpyr-diethyl with each herbicide set forth above.

Finding of prima facie obviousness Rational and Motivation
(MPEP 2142-2143)

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to follow the guidance of Rosch et al. to arrive at the instant invention.

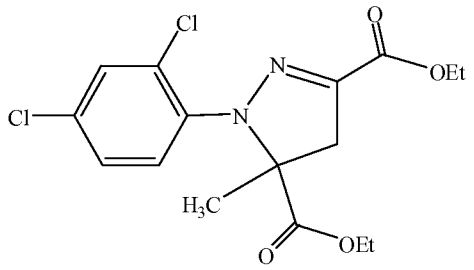
One of ordinary skill would have been motivated to do so because Rosch et al. has already suggested to select mefenpyr-diethyl in combination with one or more, or groups, of the disclosed herbicides, and formulates the combination into any desirable ways, dependent on the biological, chemical and/or physical parameters of the herbicides, and the nature of the plants to be treated.

From the teaching of the reference, it would have been obvious that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Claims 19, 24 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosch et al. (U. S. Patent No. 5,700,758) in view of Sixl, F. (U. S. Patent No. 6,479,432) and Heinrich et al. (U. S. Patent No. 5,733,847) combine.

Applicant Claims

Applicants claim a method for increasing the weed control of one or more aryloxyphenoxypropionate herbicide (**A**), i.e. cyhalofop-butyl or quizalofop-P-tefuryl or haloxyfop-etotyl, which comprises applying, simultaneously with or separately from the application of the herbicide (A), a synergistic herbicidally effective amount of one or more compound (**B**), i.e. mefenpyr-diethyl, having a structure of the formula (I) as follows:

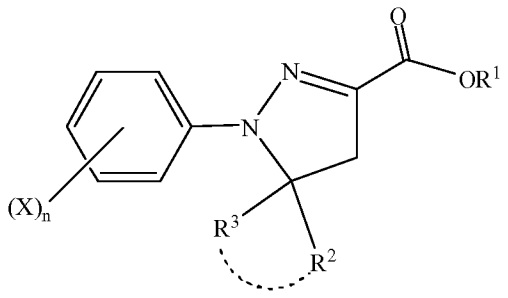


Determination of the scope and content of the prior art
(MPEP 2141.01)

The teaching of Rosch et al. has been set forth above. Essentially Rosch et al. teach a method of protecting crop plants against phytotoxic secondary effects of herbicides, which comprises treating the plants, seeds of the plants or areas under cultivation with a compound of the formula (I) before, after or simultaneously with, applying the herbicide (column 3, line 48-61).

Rosch et al. teach that the method comprises a compound of formula (I) that has the property of reducing or completely preventing phytotoxic secondary effects of herbicides when used in crops of useful plants without impairing the effectiveness of the herbicides against harmful plants; thus it enlarges the field of application of conventional herbicides (column 3, lines 48-56).

Rosch et al. teach that the compound of formula (I) that has a chemical structure as follows (see column 16, claim 1; column 19, claim 18 and column 20, claims 24-25):



;

wherein the substituents present in the compound of formula (I) correspond to the substituents present in the instant claims as follows:

Substituent (instant claims)	Substituent (Rosch et al.)
R^1	X
R^2	R^1
R^3	R^2 or R^3
CO_2R^4	R^2 or R^3
n	n

Rosch et al. teach that the substituent:

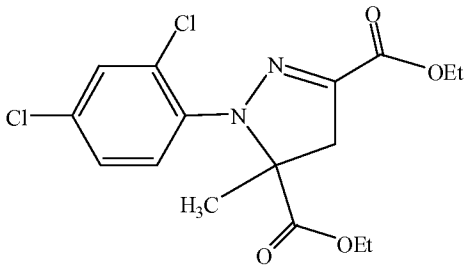
X = radicals independently of one another are halogen or C_1-C_4 haloalkyl;

R^1 = C_1-C_6-alkyl, C_3-C_6 cycloalkyl, tri(C_1-C_4 alkyl)silyl, trimethyl-silylmethyl or C_1-C_6-alkoxy-C_1-C_6-alkyl;

R^2 = independently hydrogen, C_1-C_6 alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-haloalkyl and C_1-C_{12} alkyl; and

n = 1 to 3.

More specifically, Rosch et al. teach a structure of the compound of formula (I) as follows (see: column 20, claim 28):



;

wherein the substituents of the compound of formula (I) are:

$(X)_n$ = 2, 4-dichloro-group;

R^1 = ethyl group;

R^2 = methyl group; and

R^3 = ethoxycarbonyl group.

It is noted that the compound of formula (I), as set forth above, is a known safener, which has a common name as mefenpyr-diethyl or a chemical name as ethyl 1-(2, 4-dichlorophenyl)-5-ethoxycarbonyl-5-methylpyrazoline-3-carboxylate.

Rosch et al. also teach the herbicides whose phytotoxic secondary effects can be reduced by the compound of formula (I). The suitable herbicides are the types of the (C_1-C_4)alkyl, (C_2-C_4)alkenyl or (C_3-C_4)alkynyl phenoxyphenoxy- and heteroaryloxyphenoxy carboxylates, as well as their structural analogs. More specifically, these herbicides include:

- Diclofop-methyl: methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)-propionate;
- Propaquizafop: (2-isopropylideneaminooxyethyl-(R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy]propionate);
- Fenoxaprop-P-ethyl: ethyl 2-(4-(6-chlorobenzoxazol-2-yloxy)phenoxy)propionate;
- Haloxyfop-P-methyl: methyl 2-(4-(3-chloro-5-trifluoromethyl-2-pyridyloxy)-phenoxy)propionate;

- Fluazifop-butyl and
- Fluazifop-P-butyl: butyl 2-(4-(5-trifluoromethyl-2-pyridyloxy)phenoxy)-propionate;
- Quizalofop-ethyl and
- Quizalofop-P-ethyl: ethyl 2-(4-(6-chloro-2-quinoxalyloxy)phenoxy)propionate;
- Clodinafop-propargyl: propargyl2-(4-(5-chloro-3-fluoropyridyl-2-oxy)phenoxy)-propionate;
- Haloxyfop-ethyl: ethyl 2-(4-(3-chloro-5-trifluoromethoxy-2-pyridyloxy)-phenoxy)propionate (column 4, lines 14-45).

Rosch et al. further teach that the compound of formula (I), i.e. mefenpyr-diethyl, can be combined with one or more of the herbicides, or groups of herbicides as disclosed, and can be formulated in a variety of ways dependent on the biological and/or chemical-physical parameters of the herbicides (column 5, lines 40-44 and column 20, claim 28). Therefore, the selection for the compound of formula (I) and herbicide are dependent on the nature of the plants to be treated, and they can be determined for each individual case by appropriate experiments (column 5, lines 20-24).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

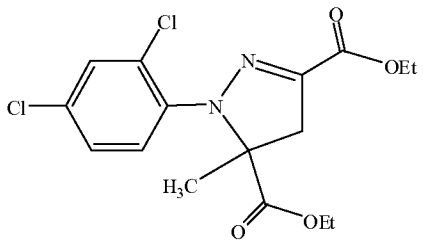
Rosch et al. teach the use of compound of formula (I), specifically mefenpyr-diethyl (column 20, claim 28), in combination with one or more herbicides as set forth above, in a method of protecting crop plants against phytotoxic secondary effects of herbicides. Rosch et al. also teach

that phenoxyphenoxy- and heteroaryloxyphenoxy carboxylates herbicide, as well as their structural analogs are suitable to be used in combination with the compound of formula (I). However, Rosch et al. do not explicitly teach that the herbicide is cyhalofop-butyl, quizalofop-P-tefuryl or haloxyfop-etotyl. However, the deficiency is cured by the teachings of Sixl, F. and Heinrich et al. combine.

Heinrich et al. teach a selective herbicidal composition comprising an active herbicide, from the class of phenoxyphenoxy- or heteroaryloxyphenoxy carboxylic acid derivatives, and at least one compound from the group of substituted 1-aryl-5-alkoxy-carbonyl-5-alkyl-pyrazoline-3-carboxylates (column 2, lines 1-12).

Heinrich et al. teach that the herbicidal phenoxyphenoxy- or heteraryloxyphenoxy carboxylic acid derivatives are preferred, such as diclofop-methyl, haloxyfop-2-ethoxy-ethyl (which is also named as haloxyfop-etotyl), quizalofop-ethyl, propaquizafop, fenoxaprop-ethyl (column 2, 41-67 and column 3, lines 1-39).

Heinrich et al. also teach that the active herbicide can be combined with crop-protecting agents, i.e. safeners, to give finished formulations that optimizing the spectrum of the herbicidal action (column 1, line 22-29 and column 6, Examples 1-5). More specifically, Heinrich et al. teach the herbicidal composition comprising ethyl 1-(2, 4-dichlorophenyl)-5-ethoxycarbonyl-5-methylpyrazoline-3-carboxylate as the safener (see structure below) (column 6, Examples 3-5):



It is noted that the crop-protecting safener ethyl 1-(2, 4-dichlorophenyl)-5-ethoxycarbonyl-5-methylpyrazoline-3-carboxylate teaches in Heinrich et al. is also known as mefenpyr-diethyl or diethyl (*RS*)-1-(2, 4-dichlorophenyl)-5-methyl-2-pyrazoline-3, 5-dicarboxylate, or diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1*H*-pyrazole-3, 5-dicarboxylate.

Sixl, F. teaches a herbicidal preparation comprising one or more active compounds, wherein the active compounds can be the herbicides of substituted phenoxy propionic acid derivatives, such as those from the classes of phenoxyphenoxy- and benzyloxyphenoxy carboxylic acid derivatives. More specifically, the preferred herbicides are cyhalofop-butyl, quizalofop-P-tefuryl, diclofop-methyl, clodinafop-propargyl, fluazifop-butyl, fenoxaprop-ethyl, fenoxaprop-P-ethyl, and those recited therein (column 2, lines 53-55, 58-59 and column 7, lines 29-37).

Sixl, F. further teaches that the one or more active compounds can also include safeners which are advantageous and generally matched to individual or more than one of the active compounds contained in the formulation. More specifically, Sixl, F. teaches that the preferred safeners, such as ethyl 1-(2,4-dichlorophenyl)-5-(ethoxycarbonyl)-5-methyl-2-pyrazoline-3-carboxylate (also named as mefenpyr-diethyl) can be used (column 7, lines 44-55).

Finding of prima facie obviousness Rational and Motivation
(MPEP 2142-2143)

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teachings of Rosch et al. in view of Sixl, F. and Heinrich et al. combine to arrive at the instant invention.

One of ordinary skill would have been motivated to select a desirable herbicide, i.e. fenoxaprop-P-ethyl, cyhalofop-butyl, quizalofop-P-tefuryl or haloxyfop-etotyl, and uses the herbicide in combination with a suitable safener, i.e. mefenpyr-diethyl, in order to reduce the phytotoxic of the herbicide that may damage to the desirable useful crops and plants. On the other hand, the combination composed of the herbicide and the safener increases the efficacy of the herbicide for weeds control. Thus, the selection for a functional, or a structural, equivalent herbicide as disclosed in combination with mefenpyr-diethyl (the safener) is merely judicious selection and routine optimization, as taught by the prior art, which would be dependent on the useful crops to be treated, the weeds to be controlled and the compatibility of the matching herbicide and safener.

From the teaching of the reference, it would have been obvious that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b) and § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS

from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication from the Examiner should direct to Helen Mei-Ping Chui whose telephone number is 571-272-9078. The examiner can normally be reached on Monday-Thursday (7:30 am – 5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where the application or proceeding is assigned is 571-273-8300.

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/H. C./

Examiner, Art Unit 1616

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616